Mackil, Molly J. (DNREC)

From: DeFriece, John R. (DNREC)
Sent: Friday, April 12, 2013 1:46 PM
To: Roushey, Jennifer S. (DNREC); Ashby, Bryan A. (DNREC); Hummel, Anthony E. (DNREC)
Cc: Davis, Glenn F. (DNREC); Smith, Nicole (DNREC); Cleaver, Chris (DNREC)
Subject: Work for Re-issuing Allen Harim & Perdue
Attachments: Allen_and_Perdue_vs_TMDL.Perdue_Metals.xlsx

Jenn,

You asked me to check how difficult/complicated reissuance of the Allen Harim and Perdue permits will be.

Upshot, The Broadkill TMDL TN requirements will be very tough on both permittees, but the permit TMDL contents are probably already dictated, "Put in the TMDL requirements and propose a 5 year compliance schedule to meet those requirements."

The Broadkill TMDL affects both Allen Harim and Perdue. It cuts allowable load discharges for both to <1/3 of loads currently allowed in the permits. I am not sure yet if the TMDL allocation for Allen is just for 001, or is for Σ(001+002); that would make TMDL requirements even tougher for Allen.

	Total Nitrogen (lbs/day)		Total Phosphorus (lbs/day)		Enterococcus Load[1] (CFU/day)	
	TMDL	Current	**TMDL**	Current	**TMDL**	Current
Allen Harim (1.25 mgd)	73.0	001 = 467.0 **002 = 103.0 ppm**	5.21	001 = 15.0 002 = N/A	4.73e+09	001 = 33.0 avg. col/100mL 002 = 185 max. col/100mL
Perdue Georgetown (2.0 mgd)	116.8	906	8.34	25.0	7.57E+09	100 avg., 185 max. col/100 mL
Note 1. TMDL requirements are "load"; permit requirements are "concentration". The attachment converts DMR concentration results to "loads", and compares results to the TMDL requirements.						

Looks like the "Live holding area" ELGs are already in both permits.

I checked data since 2008, to see how they are doing vis-à-vis the TMDL reqs.

The attachment summarizes performance vs. TMDL requirements, and metals issues for Perdue..

Sheet	Shows
1	TMDL requirements vs. current Permit requirements
2	Allen Harim TN, TP and Enterococcus vs. TMDL requirements
3	Perdue TN, TP and Enterococcus vs. TMDL requirements
4	Perdue Metals vs. WQ Requirements, and Net Addition

TP & Enterococcus probably would not be too hard to meet. TN would require expensive upgrades, or some alternative to stream discharge (not likely in Perdue's case). TP for Perdue has the added issue of Al (used to remove TP) dinging the WQS.

In addition to the TMDL, Perdue has had issues with Al, Cu and Zn. All 3 are above the WLA (waste load allocation … basically the WQS with allowance for dilution). Data show a pretty plausible case to continue to consider Cu and Zn as pass-through from the intake, and "natural conditions". Perdue has added aluminum sulfate to reduce TP, so "net aluminum vs. intake" is not a permitting option. With the low dilution, the Al added can become a problem; ferric sulfate might be an option. From conversation with the permittee, they prefer aluminum sulfate, since it is less expensive than ferric sulfate.

John

P.S. The 2010 305(b) Report & 303(d) List is still current. See http://www.dnrec.delaware.gov/swc/wa/Pages/WatershedAssessment305band303dReports.aspx. The spreadsheet version has been moved to F:\SURFACE WATER\NPDES (from F Drive)\SpreadSheets .

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Supporting Info.

http://regulations.delaware.gov/AdminCode/title7/7000/7400/7418.shtml#TopOfPage

2.0 Total Maximum Daily Loads (TMDLs) Regulation for Broadkill River

Article 1. The total nitrogen load from the four point source facilities in the Broadkill River watershed (Town of Milton, Allen Family Foods, Perdue Georgetown, and SAW Georgetown) shall be limited to 245.6 pounds per day. The nitrogen waste load allocation for each facility includes: 36.5 pounds per day for the Town of Milton, 73.0 pounds per day for Allen Family Foods, 116.8 pounds per day for Perdue Georgetown, and 19.3 pounds per day for SAW Georgetown.

Article 2. The total phosphorous load from the four point source facilities in the watershed (Town of Milton, Allen Family Foods, Perdue Georgetown, and SAW Georgetown) shall be limited to 28.0 pounds per day. The phosphorous waste load allocation for each facility includes: 13.1 pounds per day for the Town of Milton, 5.21 pounds per day for Allen Family Foods, 8.34 pounds per day for Perdue Georgetown, and 1.38 pounds per day for SAW Georgetown.

Article 3. The *enterococcus* bacteria load from the four point source facilities in the watershed (Town of Milton, Allen Family Foods, Perdue Georgetown, and SAW Georgetown) shall be limited to 1.67E+09 colony forming units (CFU) per day. The *enterococcus* bacteria waste load allocation for each facility includes: 4.37E+08 CFU per day for the Town of Milton, 4.73E+09 CFU per day for Allen Family Foods, 7.57E+09 CFU per day for Perdue Georgetown, and 1.25E+09 CFU per day for SAW Georgetown.